Modem Type Data (synchronous/asynchronous)/Fax/Simultaneous voice

 Maximum Data Rate
 28.8Kbps

 Maximum Fax Rate
 14.4Kbps

 Data Bus
 External

 Fax Class
 Class I & II

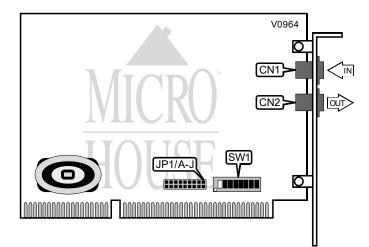
 Data Modulation Protocol
 Bell 103A/212A

ITU-T V.21, V.22, V.22bis, V.23, V.32, V.32bis, V.34

AT&T V.32terbo Multitech MSP

ITU-T V.17, V.21CH2, V.27ter, V.29

Fax Modulation Protocol ITU-T V.17, V.21CH2, VETO Correction/Compression MNP2-5, V.42, V.42bis



CONNECTIONS				
Purpos	Location	Purpos	Location	
Line in	CN1	Line out	CN2	

				INTERF	RUPT SELI	ECTION				
IRQ	JP1/A	JP1/B	JP1/C	JP1/D	JP1/E	JP1/F	JP1/G	JP1/H	JP1/I	JP1/J
í 3	Open	Closed	Open	Open	Open	Open	Open	Open	Open	Open
2/9	Closed	Open	Open	Open	Open	Open	Open	Open	Open	Open
4	Open	Open	Closed	Open	Open	Open	Open	Open	Open	Open
5	Open	Open	Open	Closed	Open	Open	Open	Open	Open	Open
7	Open	Open	Open	Open	Closed	Open	Open	Open	Open	Open
10	Open	Open	Open	Open	Open	Closed	Open	Open	Open	Open
11	Open	Open	Open	Open	Open	Open	Closed	Open	Open	Open
12	Open	Open	Open	Open	Open	Open	Open	Closed	Open	Open
14	Open	Open	Open	Open	Open	Open	Open	Open	Closed	Open
16	Open	Open	Open	Open	Open	Open	Open	Open	Open	Closed

# MULTITECH SYSTEMS, INC. MT2834PCS/CI

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		BASE	I/O ADDRESS	S SELECTION	١		
Address	SW1/1	SW1/2	SW1/3	SW1/4	SW1/5	SW1/6	SW1/7
100h	Off	On	On	On	On	On	On
200h	On	Off	On	On	On	On	On
300h	Off	Off	On	On	On	On	On
400h	On	On	Off	On	On	On	On
500h	Off	On	Off	On	On	On	On
2E8h (COM4:)	Off	On	Off	Off	Off	On	Off
í 2F8h (COM2:)	Off	Off	Off	Off	Off	On	Off
3D8h	Off	Off	On	Off	Off	Off	Off
3E0h	On	On	Off	Off	Off	Off	Off
3E8h (COM3:)	Off	On	Off	Off	Off	Off	Off
3F0h	On	Off	Off	Off	Off	Off	Off
3F8h (COM1:)	Off	Off	Off	Off	Off	Off	Off

Note: A total of 127 memory base I/O address settings are available. The switches are a binary representation of the hexadecimal addresses. Switch SW1/1 is the Least Significant Bit and switch SW1/7 is the Most Significant Bit. The switches have the following decimal values: switch SW1/1=8, SW1/2=16, SW1/3=32, SW1/4=64, SW1/5=128, SW1/6=256, SW1/7=512. Turn off the switches and add the values of the off switches to obtain the correct base I/O address. (on=0, off=1)

FACTORY CONFIGURED - DO NOT ALTER					
Switch	Position				
SW1/8	On				

#### **Proprietary Command Set**

	AMBIENT NOISE SENSITIVITY
Type:	Configuration
Format:	AT [cmds] >HVn [cmds]
Example:	AT >HV10 >C0 <cr></cr>
Default:	7
Range:	0-14
Description:	Sets the modem's sensitivity to ambient noise, with 0 being the most sensitive.

	AUTO-RELIABLE TIME BUFFER CONFIGURATION
Type:	Configuration
Format:	AT [cmds] \$An [cmds]
Example:	AT <b>\$A1</b> &W <cr></cr>
Description:	Controls the handling of incoming data during auto-reliable time period.
Command	Function
í \$A0	Data is discarded.
\$A1	Data is buffered.

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	BIT MODE
Type:	Configuration
Format:	AT [cmds] \$EBn [cmds]
Example:	AT <b>\$EB1</b> E1 <cr></cr>
Description:	Selects 10- or 11-bit mode.
Command	Function
í \$EB0	Sets 10-bit mode.
\$EB1	Sets 11-bit mode.

	CALLBACK ATTEMPTS
Type:	Register
Format:	AT [cmds] S16=n [cmds]
Example:	AT <b>S16=6</b> <cr></cr>
Default:	4
Range:	1-255
Unit:	1 attempt
Description:	Sets the maximum number of login attempts after initial callback connection.

	CALLBACK NUMBER
Type:	Configuration
Format:	AT [cmds] [+/-]DT<#>Nnn
Examples:	AT#DB2 <b>+-DT555-1212N10</b> <cr></cr>
Description:	Sets the phone number associated with the password at memory location <i>nn</i> .
Command	Function
	Function
+DT	Modem will initiate callback on successful login.

	CALLBACK PARITY
Type:	Configuration
Format:	AT [cmds] #Pn [cmds]
Example:	AT <b>#P0</b> #DB1 <cr></cr>
Description:	Sets the parity of the modem when in callback mode.
Command	Function
í #P0	No parity.
#P1	Odd parity.
#P2	Even parity.

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	CALLBACK PASSWORD
Type:	Configuration
Format:	AT [cmds] #CBNnnxxxx
Example:	AT#DB2 <b>#CBN09snarf</b> <cr></cr>
Description:	Sets the callback password at memory location <i>nn</i> to <i>xxxx</i> . The password must be between 6 and 10 characters, inclusive.

	CALLBACK SECURITY
Type:	Configuration
Format:	AT [cmds] #DBn [cmds]
Example:	AT <b>#DB1</b> S0=1 <cr></cr>
Description:	Sets the security level of the callback function.
Command	Function
í #DB0	Disables security and clears callback memory.
#DB1	Enables remote security only.
#DB2	Enables local and remote security.

	COMMAND ESCAPE TYPE
Type:	Configuration
Format:	AT [cmds] %En [cmds]
Example:	AT <b>%E3</b> &W <cr></cr>
Description:	Sets type and response of command escape sequence.
Command	Function
%E0	Command escape disabled.
í %E1	TIES escape (+++AT)
%E2	<break>AT method.</break>
%E3	Both TIES and BREAK methods.
%E4	OK response to command escape disabled.
%E5	OK response to command escape enabled.

	COMMAND SET
Type:	Configuration
Format:	AT &Qn
Example:	AT <b>&amp;Q1</b> <cr></cr>
Description:	Selects standard Hayes or custom command sets.
Command	Function
í &Q0	Multi-Tech custom command set enabled.
&Q1	Standard Hayes command set enabled.

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	COMPRESSION
Type:	Configuration
Format:	AT &En
Example:	AT <b>&amp;E15</b> #L0 <cr></cr>
Description:	Selects data compression.
Command	Function
&E14	Data compression disabled.
í &E15	Data compression enabled.

	COMPRESSION MODE
Type:	Configuration
Format:	AT #Ln
Example:	AT <b>#L2</b> DT555-1212 <cr></cr>
Description:	Selects active compression protocols.
Command	Function
í #L0	V.42 negotiation enabled.
#L1	MNP negotiation enabled.
#L2	LAP-M negotiation enabled.
	2 ii iii ii geilalieii eilaleiea

	CTS SIGNAL
Type:	Configuration
Format:	AT [cmds] &RFn [cmds]
Example:	AT <b>&amp;RF0</b> <cr></cr>
Description:	Selects the function of the CTS signal.
Command	Function
&RF0	CTS is set to RTS.
í &RF1	CTS is independent of RTS.

	DETECTION MODE
Type:	Configuration
Format:	AT [cmds] >DTn [cmds]
Example:	AT >DT1 <cr></cr>
Description:	Sets the responses the modem will detect.
Command	Function
í >DT0	Detection disabled.
>DT1	DTMF detection enabled.
>DT2	All signals will be detected.

# MULTITECH SYSTEMS, INC. MT2834PCS/CI

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	DIAL STORED PHONE NUMBER
Type:	Immediate
Format:	AT [cmds] Nn <sub>1</sub> [Nn <sub>2</sub> , Nn <sub>3</sub> ]
Example:	ATM0 N1N3N5 <cr></cr>
Description:	Dials stored phone number(s). If the first number is busy, the modem will proceed to the next number in the list.

	DSP INPUT
Type:	Configuration
Format:	AT [cmds] >DIn [cmds]
Example:	AT <b>&gt;DI4</b> >D06 <cr></cr>
Description:	Sets the input source of the digital signal processor.
Command	Function
í >DI0	Input disabled.
>DI1	Input from line in.
>DI2	Input from handset.
>DI3	Input from phone.
>DI4	Input from PC.
>DI5	Input from voicemail.
>DI6	Input from Digital Simultaneous Voice Mode session.

	DSP OUTPUT
Type:	Configuration
Format:	AT [cmds] >DOn [cmds]
Example:	AT >DI5 <b>&gt;D03</b> <cr></cr>
Description:	Sets the output device of the digital signal processor.
Command	Function
í >DO0	Output disabled.
>DO1	Output to line out.
>DO2	Output to handset.
>DO3	Output to phone.
>DO4	Output to PC.
>DO5	Output to voicemail.
>D06	Output to Digital Simultaneous Voice Mode session.

	DSR SIGNAL
Type:	Configuration
Format:	AT [cmds] &SFn [cmds]
Example:	AT <b>&amp;SF0</b> <cr></cr>
Description:	Selects the function of the DSR signal.
Command	Function
í &SF0	DSR is set to CD.
&SF1	DSR is independent of CD.

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	DSVD TALK ANYTIME™
Type:	Configuration
Format:	AT [cmds] >Cn [cmds]
Example:	AT >C1 O <cr></cr>
Description:	Enables DSVD (Digital Simultaneous Voice Data) connection.
Command	Function
í >C0	Talk Anytime™ enabled.
>C1	Talk Anytime™ disabled.

	DSVD
Type:	Immediate
Format:	AT [cmds] >VDn [cmds]
Example:	AT >VD1 O <cr></cr>
Description:	Activates DSVD (Digital Simultaneous Voice Data) connection.
Command	Function
í >VD0	Deactivates DSVD.
>VD1	Activates DSVD.

	DTR DIALING
Type:	Configuration
Format:	AT [cmds] \$Dn [cmds]
Example:	AT <b>\$D1</b> DT555-1212 <cr></cr>
Description:	Turns DTR dialing on and off.
Command	Function
í \$D0	DTR dialing disabled.
\$D1	DTR dialing enabled.

	DTR TIMEOUT
Type:	Register
Format:	AT [cmds] S24=n [cmds]
Example:	AT <b>S24=40</b> <cr></cr>
Default:	20
Range:	0-255
Unit:	50 ms
Description:	Sets the time to drop the DTR signal to hangup.

	ERASE CALLBACK PASSWORD
Type:	Immediate
Format:	AT [cmds] #RCBNn [cmds]
Example:	AT <b>#RCBN05</b> #RDN05 <cr></cr>
Description:	Erases the callback password at the memory location specified.

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	ERASE CALLBACK NUMBER
Type:	Immediate
Format:	AT [cmds] #RDNn [cmds]
Example:	AT #RCBN05 <b>#RDN05</b> <cr></cr>
Description:	Erases the callback phone number at the memory location specified.

	ERROR CORRECTION DISABLE ON CONNECT
Type:	Configuration
Format:	AT [cmds] \$Fn [cmds]
Example:	AT <b>\$F1</b> DT555-1212 <cr></cr>
Description:	Selects whether error correction can be disabled by a <cr> while handshaking.</cr>
Command	Function
\$F0	Error correction handshake interrupt disabled.
í \$F1	Error correction handshake interrupt enabled.

	ESCAPE SEQUENCE BUFFER SIZE
Type:	Register
Format:	AT [cmds] S34=n [cmds]
Example:	AT <b>S34=30</b> <cr></cr>
Default:	10
Range:	0-60
Unit:	1 byte
Description:	Sets the size of the buffer used to store commands during an escape sequence.

	ESCAPE SEQUENCE - OUT OF BAND
Type:	Immediate
Format:	<break> AT [cmds]<cr></cr></break>
Example:	<break> AT #F1<cr></cr></break>
Description:	Puts the modem in Command Mode.
Notes:	Do not precede this command with AT.
	<break> refers to the hardware modem break signal.</break>

	ESCAPE SEQUENCE TIMEOUT
Type:	Register
Format:	AT [cmds] S32=n [cmds]
Example:	AT <b>S32=30</b> <cr></cr>
Default:	20
Range:	0-255
Unit:	1 second
Description:	Sets the maximum amount of time the modem will wait for a <cr> while executing an escape</cr>
	sequence.

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	FACTORY DEFAULTS
Type:	Immediate/Configuration
Format:	AT &F[n]
Example:	AT <b>&amp;F8</b> <cr></cr>
Description:	Loads factory defaults, or sets write protect on NVRAM.
Command	Function
&F	Reloads defaults by setting. (Immediate, see below.)
í &F8	Sets &F to read factory defaults from ROM, and disables NVRAM write protect.
&F9	Sets &F to read defaults from NVRAM, and enables write-protect.

	FAILED PASSWORD ATTEMPTS
Type:	Register
Format:	AT [cmds] S26?
Example:	AT <b>S26?</b> <cr></cr>
Default:	Read-only
Range:	0-255
Unit:	1 attempt
Description:	This register stores the number of failed password attempts.

	FALLBACK MODE
Type:	Configuration
Format:	AT [cmds] #Fn [cmds]
Example:	AT <b>#F1</b> O <cr></cr>
Description:	Sets direction of fallback.
Command	Function
#F0	Fallback disabled.
#F1	Fallback from 28.8Kbps to 2400bps as line quality degrades.
í #F2	Fallback from 2400bps to 28.8Kbps as line quality improves.

	FLOW CONTROL NORMAL MODE
Type:	Configuration
Format:	AT [cmds] &En [cmds]
Example:	AT <b>&amp;E11</b> O <cr></cr>
Description:	Selects normal flow control.
Command	Function
í &E10	Normal mode disabled.
&E11	Normal mode enabled.

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	FLOW CONTROL TYPE
Type:	Configuration
Format:	AT [cmds] &En [cmds]
Example:	AT <b>&amp;E4</b> &W <cr></cr>
Description:	Sets type of flow control used by modem.
Command	Function
&E3	Flow control disabled.
í &E4	CTS/RTS flow control enabled.
&E5	XON/XOFF flow control enabled.

	HANDSHAKE ATTEMPTS
Type:	Configuration
Format:	AT [cmds] #An [cmds]
Example:	AT <b>#A1</b> #L3 <cr></cr>
Description:	Configures the initial handshake phase.
Command	Function
#A0	Attempts in order: 28.8Kbps, 24Kbps, 21.6Kbps, 19.2Kbps, 16.8Kbps, 14.4Kbps, 12Kbps, 9600bps, 4800bps, 2400bps, 1200bps, 300bps.
#A1	Attempts only 28.8Kbps.
#A2	Attempts in order: 28.8Kbps, 24Kbps, 21.6Kbps, 19.2Kbps, 16.8Kbps, 14.4Kbps, 12Kbps, 9600bps, 4800bps.
#A3	Attempts in order: 2400bps, 1200bps, 300bps.

	HELP SCREENS
Type:	Immediate
Format:	AT \$Hn
Example:	AT <b>\$H1</b> <cr></cr>
Description:	Shows modem help screens.
Command	Function
\$H1	Shows help screen 1.
\$H2	Shows help screen 2.
\$H3	Shows help screen 3.

	LIST CONFIGURATION
Type:	Immediate
Format:	AT Ln
Example:	AT <b>L5</b> <cr></cr>
Description:	Lists modem configuration.
Command	Function
Command L5	Function Lists all settings.
L5	Lists all settings.

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	LINE CONNECTION
Type:	Configuration
Format:	AT [cmds] >PHn [cmds]
Example:	AT >PH1 <cr></cr>
Description:	Selects the operation mode of the modem.
Command	Function
í >PH0	Modem is in data mode.
>PH1	Modem is in voice mode.

	LOCAL SERIAL PORT SPEED
Type:	Configuration
Format:	AT [cmds] \$SBnnn [cmds]
Example:	AT \$MB9600 <b>\$\$B19200</b> <cr></cr>
Description:	Sets serial port speed.
Command	Function
\$SB300	Sets 300bps speed.
\$SB1200	Sets 1200bps speed.
\$SB2400	Sets 2400bps speed.
\$SB4800	Sets 4800bps speed.
\$SB9600	Sets 9600bps speed.
\$SB19200	Sets 19.2Kbps speed.
\$SB38400	Sets 38.4Kbps speed.
\$SB57600	Sets 57.6Kbps speed.
\$SB115200	Sets 115.2Kbps speed.

	LOCK SERIAL PORT
Type:	Configuration
Format:	AT [cmds] \$BAn [cmds]
Example:	AT \$SB57600 <b>\$BA0</b> <cr></cr>
Description:	Sets operation of serial port speed.
Command	Function
í \$BA0	Serial speed locked at rate set by \$SB.
\$BA1	Serial speed follows connect speed, ignoring \$SB.

	LOGIN PASSWORD
Type:	Configuration
Format:	AT [cmds] #lxxxx
Example:	AT #IMicroHouse <cr></cr>
Description:	Sets the login password to xxxx. The password must be between 6 and 10 characters, case sensitive. It defaults to MULTI-TECH.

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	MAXIMUM BLOCK SIZE FOR TRANSMISSION
Type:	Configuration
Format:	AT [cmds] &BSn [cmds]
Example:	AT <b>&amp;BS1</b> &MB28800 <cr></cr>
Description:	Sets the maximum transmittable block size.
Command	Function
&BS0	Maximum block size is 64 characters.
í &BS1	Maximum block size is 128 characters for LAP-M, and 256 characters for MNP.

	MICROPHONE
Type:	Configuration
Format:	AT [cmds] >Mn>MVn [cmds]
Example:	AT >M2>MV5 <cr></cr>
Description:	Turns the microphone of the attached telephone handset on or off.
Note:	An >MV command must be issued on the same line.
Command	Function
>M0	Disables microphone.
í >M2	Enables microphone.

	MICROPHONE SENSITIVITY
Type:	Configuration
Format:	AT [cmds] >MVn [cmds]
Example:	AT >MV6 <cr></cr>
Default:	None
Range:	0-14
Description:	Sets the microphone's sensitivity, with 0 being the most sensitive.

	MSP MODE
Type:	Configuration
Format:	AT [cmds] >%Pn [cmds]
Example:	AT <b>&gt;%P1</b> <cr></cr>
Description:	Enables or disables Multitech Supervisory Protocol (MSP).
Command	Function
í %P0	MSP disabled.
%P1	MSP enabled.

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	PACING
Type:	Configuration
Format:	AT [cmds] &En [cmds]
Example:	AT <b>&amp;E13</b> <cr></cr>
Description:	Selects ENQ/ACK pacing.
Command	Function
&E12	Disables ENQ/ACK pacing.
í &E13	Enables ENQ/ACK pacing.

	PACING - ENQ/ACK
Type:	Configuration
Format:	AT [cmds] &En [cmds]
Example:	AT <b>&amp;E9</b> <cr></cr>
Description:	Selects ENQ/ACK pacing.
Command	Function
í &E8	Enables ENQ/ACK pacing.
&E9	Disables ENQ/ACK pacing.

	REDIAL
Type:	Immediate
Format:	ATA:
Example:	AT <b>A:</b> <cr></cr>
Description:	Redials the last number dialed until it is no longer busy.

	REMOTE CONNECT SPEED
Type:	Configuration
Format:	AT \$MBnnn
Example:	AT \$MB9600 \$SB19200 <cr></cr>
Description:	Sets maximum remote connect speed.
Command	Function
\$MB75	Sets V.23 (1200bps/75bps bi-directional).
\$MB300	Sets 300bps connect.
\$MB1200	Sets 1200bps connect.
\$MB2400	Sets 2400bps connect.
\$MB4800	Sets 4800bps connect.
\$MB9600	Sets 9600bps connect.
\$MB14400	Sets 14.4Kbps connect.
\$MB19200	Sets 19.2Kbps connect.
\$MB28800	Sets 28.8Kbps connect.

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	RETRANSMIT FAIL ACTION
Type:	Configuration
Format:	AT [cmds] \$Rn [cmds]
Example:	AT <b>\$R1</b> <cr></cr>
Description:	Sets whether the modem gives up on a bad connection.
Command	Function
í \$R0	Hang up after 12 failed retransmissions.
\$R1	Do not hang up after 12 failed retransmissions.

	SETUP INACTIVITY TIMER
Type:	Register
Format:	AT [cmds] S29=n [cmds]
Example:	AT <b>S29=5</b> <cr></cr>
Default:	20
Range:	1-255
Unit:	1 minute
Description:	Sets the maximum amount of time between commands until the setup password must be re- entered.

	SPEAKER
Type:	Configuration
Format:	AT [cmds] >Sn>SVn [cmds]
Example:	AT > <b>S2</b> >SV5 <cr></cr>
Description:	Turns the speaker of the attached telephone handset on or off.
Note:	An >SV command must be issued on the same line.
Command	Function
>S0	Disables speaker.
í >S2	Enables speaker.

	SPEAKER VOLUME
Type:	Configuration
Format:	AT [cmds] >SVn [cmds]
Example:	AT >SV6 <cr></cr>
Default:	None
Range:	0-14
Description:	Sets the speaker's volume, with 0 being the most sensitive.

	STORE PHONE NUMBER IN NVRAM
Type:	Configuration
Format:	AT [cmds] D<#>Nn [dialstring]
Example:	AT <b>D555-1212N1</b> <cr></cr>
Description:	Stores a phone number in the modem's memory.

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	TIME UNTIL HANG UP ON LOW DTR
Type:	Register
Format:	AT [cmds] S36=n [cmds]
Example:	AT <b>S36=5</b> <cr></cr>
Default:	0
Range:	0-255
Unit:	1 second
Description:	Sets the maximum amount of time the modem will wait to hang up after the DTR signal goes low.

	TIME UNTIL PICK UP ON HIGH DTR
Type:	Register
Format:	AT [cmds] S37=n [cmds]
Example:	AT <b>S37=5</b> <cr></cr>
Default:	0
Range:	0-255
Unit:	1 second
Description:	Sets the maximum amount of time the modem will wait to pick up after the DTR signal goes high.

	TRELLIS MODULATION
Type:	Configuration
Format:	AT [cmds] #Tn [cmds]
Example:	AT <b>#T1</b> <cr></cr>
Description:	Controls Trellis Coded Modulation.
Command	Function
#T0	Disables TCM.
í #T1	Enables TCM.

	V.32terbo CONTROL
Type:	Configuration
Format:	AT [cmds] #Vn [cmds]
Example:	AT <b>#V1</b> DT555-1212 <cr></cr>
Description:	Controls the V.32terbo protocol in answer mode.
Command	Function
í #V0	V.32terbo enabled.
#V1	V.32terbo disabled.

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	V.42 MODE
Type:	Configuration
Format:	AT [cmds] &En [cmds]
Example:	AT <b>&amp;E0</b> <cr></cr>
Description:	Configures the operation of V.42 mode.
Command	Function
&E0	Error correction disabled.
í &E1	V.42 set to auto-reliable.
&E2	V.42 set to reliable.

	VOICE BANDWIDTH
Type:	Configuration
Format:	AT [cmds] >An [cmds]
Example:	AT >A0 <cr></cr>
Description:	Sets the bandwidth reserved for voice transmission.
Command	Function
>A0	Voice bandwidth set to 9600bps.
>A1	Voice bandwidth set to 16Kbps.
í >A2	Voice bandwidth set to 16Kbps if connected at 19.2Kbps or above, or 9600bps otherwise.

	XOFF SEND
Type:	Configuration
Format:	AT [cmds] #Xn [cmds]
Example:	AT <b>#X1</b> <cr></cr>
Description:	Selects how XOFF signal is sent.
Command	Function
í #X0	Single XOFF character sent until ready.
#X1	Multiple XOFF characters sent until ready.

	XON/XOFF PASS-THROUGH
Type:	Configuration
Format:	AT [cmds] &En [cmds]
Example:	AT <b>&amp;E7</b> O <cr></cr>
Description:	Selects whether XON/XOFF signals are sent to remote modem.
Command	Function
í &E6	XON/XOFF signals trapped by local modem.
&E7	XON/XOFF passed through local modem.